

First Semester Review

CP Geometry

Chapters 1-4, 13 Name _____

18-23

Write the converse of each conditional. Determine if the converse is true or false.

- ① If an angle measures 128° , then it is obtuse.
- ② If two lines have the same slope, then they are parallel and nonvertical.
- ③ Identify the hypothesis of the conditional statement *If two lines are perpendicular, then they form four right angles.*
- ④ Complete this statement of the Law of Syllogism: If $a \rightarrow b$ and $b \rightarrow c$ are true conditional statements, then it is also true that _____.

Find the slopes of the lines parallel to and perpendicular to the line through the given points.

- ⑤ $A(2, 3), B(4, 4)$
- ⑥ $C(3, -3), D(6, -5)$
- ⑦ $E(-1, -2), F(-1, 3)$

Questions 8-11 refer to the rectangular box below.

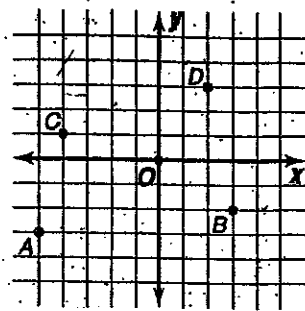
- ⑧ Which segments are skew to \overline{EF} ?
- ⑨ Which segments are parallel to \overline{BC} ?
- ⑩ Which planes is \parallel to plane ADH ?
- ⑪ Which plane is parallel to plane CDH ?



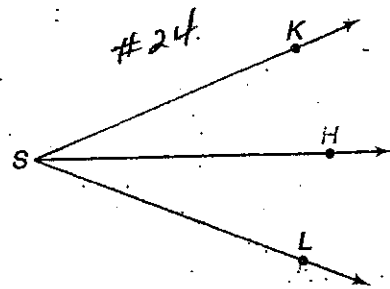
- ⑫ If S is the midpoint of \overline{RT} , $RS = 7x - 13$, and $ST = 4x + 5$, find the measure of \overline{RT} .
- ⑬ What is the slope of the line passing through $A(7, -11)$ and $B(-3, 8)$?
- ⑭ What is the slope of a line parallel to the line passing through $C(2, 6)$ and $D(-1, -5)$?
- ⑮ What is the slope of a line perpendicular to the line passing through $E(-1, 6)$ and $F(-2, -10)$?

If $\angle M$ and $\angle N$ are complementary, $m\angle M = 4x - 3$, and $m\angle N = 2x + 9$, find $m\angle M$ and $m\angle N$.

If $\angle KPX$ and $\angle APX$ form a linear pair, then name a pair of opposite rays.

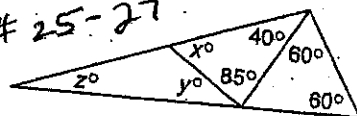


- ⑱ What ordered pair names point A?
- ⑲ What is the length of \overline{BD} ?
- ⑳ What are the coordinates of the midpoint of \overline{CD} ?
- ㉑ What is the slope of \overline{AC} ?
- ㉒ What is the slope of any line parallel to \overline{BD} ?
- ㉓ What is the slope of any line perpendicular to \overline{AB} ?



If $m\angle KSH = 4x - 10$, $m\angle LSH = 3$ and \overline{SH} bisects $\angle KSL$, find the measures of all the angles.

25-27



Refer to the figure above:

- ㉕ Find the value of x .
- ㉖ Find the value of y .
- ㉗ Find the value of z .

28. Which of the numbered angles appear to be obtuse?

29. Are $\angle 2$ and $\angle 6$ vertical angles?

30. Are $\angle 7$ and $\angle 8$ supplementary angles?

31. If $\angle 6 \cong \angle 8$, which lines are parallel and why?

32. If $r \parallel s$ and $m\angle 5 = 27$, find $m\angle 3$.

33. If $r \parallel s$ and $m\angle 5 = 15$, find $m\angle 7$.

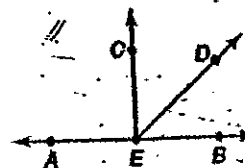
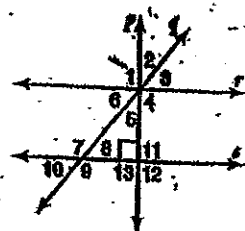
For Questions 34-36, refer to the figure at the right. Lines a and b are parallel.

34. What is the special angle pair name for $\angle 2$ and $\angle 4$?

35. What is the special angle pair name for $\angle 5$ and $\angle 4$?

36. Name two pairs of congruent alternate interior angles.

37. What is the slope of a line parallel to the line passing through $(7, 0)$ and $(-2, 4)$?



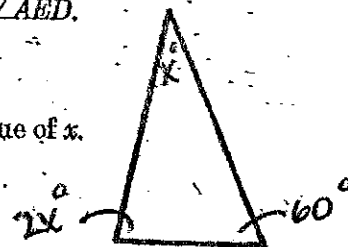
48. True or false: \vec{AE} and \vec{EB} are opposite rays.

49. Identify the sides of $\angle CED$.

50. \vec{ED} bisects $\angle CEB$ and $m\angle DEB = 35$. Find $m\angle CEB$.

51. \vec{EC} bisects $\angle AED$, $m\angle AEC = 2x + 10$, and $m\angle AED = 6x$. Find $m\angle AED$.

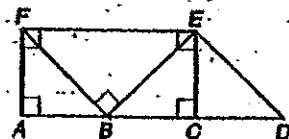
52. Find the value of x .



Name the segment whose length is the distance between the point and line.

38. from F to \vec{BE}

39. from D to \vec{FA}

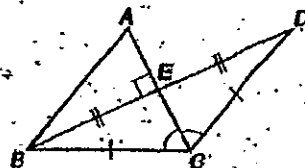


Tell whether each relationship can be assumed from the figure below. Write yes or no.

40. $\vec{BE} \perp \vec{BC}$

41. E is the midpoint of \vec{BD} .

42. $\angle ABE \cong \angle EDC$



Find the coordinates of the image of point $(2, -1)$ for each transformation.

53. translation down 4 units

54. reflection with respect to the x -axis

55. rotation with respect to the x -axis and the y -axis

56. dilation with center at the origin, scale factor 3

43. If $\angle A$ and $\angle B$ form a linear pair, and $m\angle A = 53$ degrees, find $m\angle B$.

44. Find the maximum area of a rectangle if its perimeter is 68 cm.

45. Write the inverse and contrapositive of "If two lines are parallel, then their slopes are equal."

46. Find the distance between -5 and 12 .

47. Find the distance between $(-2, -10)$ and $(4, -8)$.

For Questions 57-60, refer to the figure at the right.

57. The reflection image of figure 1 with respect to line m is

58. The rotation image of figure 2 with respect to lines k and l is

59. Which figure is a translation image of figure 3?

60. Which figure is the reflection image of figure 4 with respect to m and l .

